

Date: Wed, 22 Jun 94 04:30:30 PDT
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Errors-To: Ham-Homebrew-Errors@UCSD.Edu
Reply-To: Ham-Homebrew@UCSD.Edu
Precedence: Bulk
Subject: Ham-Homebrew Digest V94 #170
To: Ham-Homebrew

Ham-Homebrew Digest Wed, 22 Jun 94 Volume 94 : Issue 170

Today's Topics:

4-1000 Homebrew Amp (2 msgs)
 ANIMAL TRACKING
 Cavities
 FM TX modules desired
 G-10 CIRCUIT BOARD?
 Ham/Macintosh BBS
 IMPATT Diodes
 L.O FOR 1.2, 1.3, 1.4, 1.5 GHZ
 Laser or microwave digital communication
 PCB layout software for PC
 PLANS FOR PACKET MODEM
 Relays
 Square transmission lines
 up-conversion

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 21 Jun 1994 20:33:01 -0400
From: newstf01.cr1.aol.com!search01.news.aol.com!not-for-mail@uunet.uu.net
Subject: 4-1000 Homebrew Amp
To: ham-homebrew@ucsd.edu

Anyone have experience with using a passive grid at HF in a 4x1000
AMP? The plan is to have 600 volts of Screen voltage, roller coil in
the Pi Net, and (hopefully) 50 Ohm, 100 watt grid to ground resistor.
I plan to run the amp in AB1 to AB2 just touching the grid current

point. 4000 volts on the plate. Any help or suggestions? 1.8 to ? Mhz coverage, 1500 solid, cool watts out.

Date: 22 Jun 1994 02:08:05 -0400
From: newstf01.cr1.aol.com!search01.news.aol.com!not-for-mail@uunet.uu.net
Subject: 4-1000 Homebrew Amp
To: ham-homebrew@ucsd.edu

In article <2u80rt\$c1n@search01.news.aol.com>, ells22@aol.com
(ELLS22) writes:

>Anyone have experience with using a passive grid at HF in a 4x1000
AMP?

Meaning, I think, no tuned circuit on the input (grid)...
For AB1, it's ok. However, if you ever draw any grid current (class
AB2 or B or C), gotta use that tuned input. Just a Q of 2 or 3 will
do. But the dudes at EIMAC say for no grid current/no drive power,
passive grid ok.
scott nx7u@aol.com

Date: Tue, 21 Jun 94 04:21:00 -0500
From: ihnp4.ucsd.edu!library.ucla.edu!europa.eng.gtefsd.com!sundog.tiac.net!
news.sprintlink.net!news.infi.net!exchange!john.tant@network.ucsd.edu
Subject: ANIMAL TRACKING
To: ham-homebrew@ucsd.edu

>Message-ID: <1994Jun15.144631.19774@kd4dts.atl.ga.us>
>Newsgroup: rec.radio.amateur.homebrew
>Organization: kd4dts

>Wouldn't it be easier to put some kind of electronic perimeter fence (las
>capacitive, siesmic) and just go tearing out there with you Uzi in hand,
>instead? With the constraints you've placed on the transmitter, current
>technology is not going to be cost effective. Another option may be to
>use some kind of infrared cameras and a VCR. Only problem with this is
>that sheep are going to show up. Maybe wire a couple of the sheep with
>5 pounds of C-4 with a radio receiver, and if the carrier ever drops,
>*KABOOM*. No more sheep, no more sheep rustler...

Ewe ought to be ashamed of yourself.

That's a really baaaa-d idea.

Of all the sheep theatrical tricks!

John

BTW, iaw section 97, wouldn't the sheep have to be licensed? Should be no problem, especially with the no-cud license!

gnorph! snicker!!

* WR # 365 * This is a tagline?

Date: 22 Jun 1994 02:05:02 -0400
From: newstf01.cr1.aol.com!search01.news.aol.com!not-for-mail@uunet.uu.net
Subject: Cavities
To: ham-homebrew@ucsd.edu

with respect to Q of cylindrical cavities...
I can answer your questions next week (I'm away from home now). Do you need text references or the answer itself?
Scott nx7u@aol.com

Date: Tue, 21 Jun 1994 14:32:31 GMT
From: ihnp4.ucsd.edu!swrinde!cs.utexas.edu!convex!news.ssc.gov!fnnews.fnal.gov!gw1!nntp!not-for-mail@network.ucsd.edu
Subject: FM TX modules desired
To: ham-homebrew@ucsd.edu

In article <1994Jun21.140442.24934@dg-rtp.dg.com>,
Mike Harris <harrism@aquila.rtp.dg.com> wrote:
> I am looking for a source of FM transmitter modules and would
> appreciate any input.
>
> 1) Should be fairly stable frequency wise - the cheap BAXXX?
> FM transmitter kits aren't adequate.
>
> 2) Selectable frequency preferred - VFO or synthesized preferred
> though crystal would probably be acceptable. Frequency wouldn't

> be changed often so diode programmign would be acceptable.
>
> 3) Low power (QRP) is all that is required - Part 92/93? levels
> are adequate.
>
> 4) Stereo as an option.
>
> Options I'm aware of:
>
> Ramsey has a ~\$100 transceiver kit that might be adequate though
> I don't need the PA nor the receiver. Has anybody built this kit?
>
> Somebody has a transceiver "brick" that I've heard advertised in
> QST, etc, but haven't been able to find info on. Something that
> was designed for wireless hand held data entry terminals but found
> ham applications? I'd appreciate any leads on this component.
>
> I'd appreciate comments on these as well as any other options you
> may be aware of.
>
> thanks, Mike Harris

Check out alt.radio.pirate. There is a company called Panaxis that
supposedly offers very high quality kits that might fit the bill.

--

Wally Blackburn Clinton-Gore - Socialist Leadership
wrb@ccsitn.cb.att.com for the 90s!
Amateur Radio Station AA8DX I'm the NRA.
'91 FXR DoD #1375

Date: Wed, 22 Jun 1994 04:20:39 GMT
From: ihnp4.ucsd.edu!agate!spool.mu.edu!sgiblab!a2i!mlyon.a2i!
mlyon@network.ucsd.edu
Subject: G-10 CIRCUIT BOARD?
To: ham-homebrew@ucsd.edu

i was wondering if anyone out there has any idea where i could pick up
some g-10 type circuit board.any help would be appreciated.

thanx,

mlyon@rahul.net

--

Mike Lyon <mlyon@rahul.net>

Date: 21 Jun 1994 23:06:00 GMT
From: swrinde!emory!europa.eng.gtefsd.com!newsxfer.itd.umich.edu!jobone!
lynx.unm.edu!news.cs.indiana.edu!nsth.ns.ca!news.unb.ca!torn!uunet.ca!uunet.ca!
ionews.io.org!sun.@@ihnp4.ucsd.edu
Subject: Ham/Macintosh BBS
To: ham-homebrew@ucsd.edu

Gallery's BBS moved to a new phone number at 202-298-6009.
We feature Macintosh shareware for ham radio and other general use
files for the Mac. The system is free and all callers are welcome. No
download/upload ratios or any other restrains.
Settings are standard modem ones and it supports calls up to 9600 bd
Thanks for reading this and hope to see a few more users logging in..
73's de Paulo, N3MGA
paulot@cais2.cais.com

Date: 21 Jun 1994 08:51:27 -0500
From: ihnp4.ucsd.edu!usc!cs.utexas.edu!not-for-mail@network.ucsd.edu
Subject: IMPATT Diodes
To: ham-homebrew@ucsd.edu

Hi, I'm trying to locate a source for some IMPATT Diodes, specifically
the parts listed below. I have searched for these diodes through every
source I know. Apparently NEC no longer makes them, and I have not found
anyone with a stash of them, or something that can replace them. If you
can help, let me know.

NEC IMPATT Diodes

ND8P08-5G (1 Watt)
ND8S08-5H (2 Watt)

Thanks Dan Nygren

nygren@tecnet1.jcte.jcs.mil

Date: Wed, 22 Jun 1994 01:57:03 GMT
From: ihnp4.ucsd.edu!library.ucla.edu!csulb.edu!csus.edu!netcom.com!
kors@network.ucsd.edu

Subject: L.O FOR 1.2, 1.3, 1.4, 1.5 GHZ
To: ham-homebrew@ucsd.edu

Richard Karlquist (rkarlqu@scd.hp.com) wrote:

: In article <CroIo3.DG6@rahul.net>, Mike Lyon <mlyon@rahul.net> wrote:
: >well i am trying to design a L.O for 1.2, 1.3, 1.4, 1.5 ghz. i don't
: >think i can do it with crystals (but if anyone thinks i can i would love
: >to hear from you on how i could do it :). so my idea was to build the
: >oscillator with the good old caps and inductors (feedback type). the thing
: >is though is the fact that i can't find any formulas and schematics on
: >how to build one. i have a schematic for a 2 ghz L.O but it doesn't have
: >any formulas to figure out the components values. so my question is for
: >you experts is do you guys or gals have any schematics, formulas or
: >anything of that nature you could either post or e-mail to me? any light
: >on this subject would be greatly appreciated.

Look at the July 1989 issue of QST for the description of the kind of
oscillator that I've got going at 1.5 G. The oscillator works great, stable and
no
start-up problems. The references are especially helpful

Good luck,

Dick Kors
km6ep
: >

Date: 21 Jun 1994 13:21:51 GMT
From: ihnp4.ucsd.edu!agate!howland.reston.ans.net!EU.net!sunic!news.chalmers.se!
dtek.chalmers.se!d2bjorn@network.ucsd.edu
Subject: Laser or microwave digital communication
To: ham-homebrew@ucsd.edu

I am interested in wireless communication for networking to a building
ca 500 meters away. I have seen the "Multi Megabaud Microwave Link"-project
in ARRL's handbook, and find it most interesting. Has anyone on the
net actually built one?

The alternative, as I've understood, is setting up a laser link. How hard
is such a beast to build? Has it been done? What kind of costs are we
talking about?

I have heard rumours that the ARRL handbook project it is due to be (or has
already been) updated from 2 Mbits to 10 Mbits. I have only looked into the

'93 version, so I wonder if this is true?

Finally, are there any other ways, not necessarily as fast? Preferably not "ordinary" radio, because frequencies are hard to get.

Suggestions anyone?

/Mikael G Björn, Chalmers University of Technology

Date: Wed, 22 Jun 1994 01:46:04 GMT
From: ihnp4.ucsd.edu!library.ucla.edu!csulb.edu!csus.edu!netcom.com!
kors@network.ucsd.edu
Subject: PCB layout software for PC
To: ham-homebrew@ucsd.edu

: There's a fully functional (although of limited capability; I've
: forgotten what the limits are) demo of PADS available. I haven't
: figured out how to do auto placing and/or auto routing from a schematic
: yet, but manual placement and routing seems to work well.

Can you tell me if there is a FTP site that has PADS demo available?

Dick Kors
km6ep
kors@snetcom.com

Date: Tue, 21 Jun 94 04:21:00 -0500
From: ihnp4.ucsd.edu!galaxy.ucr.edu!library.ucla.edu!europa.eng.gtefsd.com!
sundog.tiac.net!news.sprintlink.net!news.infi.net!exchange!
john.tant@network.ucsd.edu
Subject: PLANS FOR PACKET MODEM
To: ham-homebrew@ucsd.edu

>Message-ID: <01HDKLHX2RNQ002R80@BEACH.UTMB.EDU>
>Newsgroup: rec.radio.amateur.homebrew
>Organization: ucsd usenet gateway

>I know that someone posted a similar request for plans for a homebrew pac
>modem the other day. I someone does have plans or an FTP site with plans
>could you send me a carbon copy or email.

>Also could you recommend software to use with it, or will any communicati

>work with it (ProComm,SmartComm,etc.)?

>TNX

>Bren

>KC5GWA

>BDORECK@BEACH.UTMB.EDU

Bren,

I have used ProComm/win and dos for packet in the past. Right now, I'm using SmartComm/mac. They work just fine and take about 2 minutes to set up the data rate, etc.

GL,

John

* WR # 365 * This is a tagline?

Date: Tue, 21 Jun 94 16:09:39 PDT

From: ihnp4.ucsd.edu!library.ucla.edu!europa.eng.gtefsd.com!uhog.mit.edu!
news.kei.com!ssd.intel.com!chnews!news@network.ucsd.edu

Subject: Relays

To: ham-homebrew@ucsd.edu

Can anyone tell me where I might find (purchase cheaply) some 12-24 VDC relays that I can use to switch in/out my 2m and 70cm antenna preamps? I need to take the preamps out-of-line before transmitting. They need to operate at 145 and 443 MHz with minimum signal lost and capable of handling 150 watts of RF output power. I prefer PC mount type so I can mount them inside the preamp bud box. Coaxial relays (Dowell or Tohtus) are big and require coax connectors.

Thanks, Tom WB7ASR...

tom_boza@ccm.hf.intel.com

Date: Tue, 21 Jun 1994 16:06:00 GMT

From: newsflash.concordia.ca!pavo.concordia.ca!md_hill@uunet.uu.net

Subject: Square transmission lines
To: ham-homebrew@ucsd.edu

In article <1994Jun20.202248.28363@galileo.cc.rochester.edu>, BILLY@urhep.pas.rochester.edu (Bill VanRemmen) writes...

>Could someone clue me in to the formula for calculating the characteristic
>impedance of a coaxial transmission line with a square shield, ie the cross
>section looks like...

```
>That's a round center conductor there (ie brass tubing). Possible uses for
>such a bird would be 1) a directional coupler made out of scrap PC board and a
>piece of wire or tubing or 2) a tapered-line matching section if one tapers the
>width of the shield...
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>
> -Bill VanRemmen, KA2WFI
```

>
An empirical approximate for this type of calculation is to do the calculation for a round cable but multiply the diameter by a factor of 1.2. This comes pretty close in practice. The formulae for the round cable calculations can be found in any electromagnetics textbook. Also, the ARRL handbook has a little blurb on helical resonators which also touches on the topic.

Date: Tue, 21 Jun 94 20:12:21 GMT
From: lll-winken.llnl.gov!noc.near.net!ll.mit.edu!fcr@ames.arpa
Subject: up-conversion
To: ham-homebrew@ucsd.edu

In article <1994Jun18.113453.1@ccsvax.sfasu.edu> f_speerjr@ccsvax.sfasu.edu (James Speer) writes:

>Yet another dumb question from a boatanchor era ham trying to enter the late
>20th:

>
>I notice modern HF receivers (or at least the one I just ordered from Index
>Labs) use UPconversion. The IF in the Index Labs unit, for example, is 50mhz.
>This clerly creates a favorable image ratio, but in former times would havee
>been rejected because a) it's hard to generate IF selectivity at that
>frequency, and the alterative of filtering at AF has its own problems, and b)

>it's hard to do needed, stable amplification at that frequency.
>

The biggest advantage in up-converting to the first IF is that you can design a general coverage receiver with at least the first IF outside of the frequency coverage, and a single low-pass filter is all that is needed for IF image rejection (more filters are needed for IM rejection though). General coverage is very important in todays market.

The selectivity is not as much of an issue as it used to be because of (relatively) low cost crystal and SAW filters at the high first IF frequency. The amplifiers at 50MHz are not too much of a problem.

There has been a lot of progress in building low-cost high-volume high-frequency amplifiers and filters in the last 10 years with the booms, first in satellite receivers, then in cellular and cordless phones.

Frank Robey
fcr@ll.mit.edu

End of Ham-Homebrew Digest V94 #170
